

What is claimed is:

1. A mechanism for a torque converter, comprising:
a reaction member carrier coupling sleeve comprising a first set of coupling teeth;
a stator support coupling sleeve supported for axial movement and comprising a
5 second set of coupling teeth; and
a pawl pivotally mounted on said reaction member carrier coupling sleeve for
selectively engaging said second set of coupling teeth with said first set of coupling teeth.
2. The mechanism of claim 1, wherein said reaction member carrier coupling sleeve
10 is connected to a torque converter reaction member.
3. The mechanism of claim 1, wherein at least one spring is in contact with said
pawl to urge said pawl into said stator support coupling sleeve.
- 15 4. The mechanism of claim 1, wherein said first set of coupling teeth and said
second set of coupling teeth are curvilinear.
5. The mechanism of claim 1, wherein said first set of coupling teeth and said
second set of coupling teeth selectively define a gap between them.
- 20 6. The mechanism of claim 1, wherein said stator support coupling sleeve has a
plurality of helical splines on an inner surface for rotating axial movement between a first
axial position and a second axial position.

7. The mechanism of claim 1, wherein said plurality of helical splines of said stator support coupling sleeve meshes with a plurality of complementary helical splines on an inner splined sleeve.

5 8. The mechanism of claim 1, wherein said pawl is pivotally mounted on said reaction member carrier coupling sleeve by at least one pin.

9. The mechanism of claim 1, wherein said pawl selectively engages with one of a plurality of indexing slots on said stator support coupling sleeve.

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10. The mechanism of claim 1, wherein at least one stop on said reaction member carrier coupling sleeve prevents movement of said pawl beyond a predetermined distance from said plurality of indexing slots.

15 11. A mechanism for a torque converter, comprising:
a reaction member carrier coupling sleeve comprising a first set of coupling teeth;
a stator support coupling sleeve supported for axial movement along a plurality of helical splines and comprising a plurality of indexing slots and a second set of coupling teeth for selectively engaging said first set of coupling teeth; and
20 a pawl pivotally mounted on said reaction member carrier coupling sleeve for selective engagement with one of said plurality of indexing slots.

12. The mechanism of claim 11, wherein said stator support coupling sleeve selectively rotates along said plurality of helical splines to a first axial position where said pawl engages said indexing slots to align said first set of coupling teeth with said second set of coupling teeth.

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13. A method for selectively engaging a torque converter reaction member, comprising:

providing a reaction member carrier coupling sleeve comprising a first set of coupling teeth;

10 locating a stator support coupling sleeve on a plurality of helical splines to selectively move said stator support coupling sleeve in an axial direction, said stator support coupling sleeve comprising a second set of coupling teeth; and

selectively engaging a pawl with one of a plurality of indexing slots on said stator support coupling sleeve for selectively engaging said first set of coupling teeth and said

15 second set of coupling teeth.

14. The method of claim 13, wherein a first hydraulic fluid force generated by said reaction member coupling sleeve rotates said stator support coupling sleeve in a first axial direction away from said reaction member carrier coupling sleeve.

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15. The method of claim 13, wherein said pawl is positioned on said reaction member carrier coupling sleeve to engage one of said plurality of indexing slots on said stator support coupling sleeve to align said second set of coupling teeth with said first set of coupling teeth.

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16. The method of claim 13, wherein said pawl is positioned on said reaction member carrier coupling sleeve to engage one of said plurality of indexing slots on said stator support coupling sleeve when said stator support coupling sleeve is located in a first axial position.

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17. The method of claim 13, wherein a first portion of said first set of coupling teeth contact a first portion of said second set of coupling teeth creating an offset between said first set of coupling teeth and said second set of coupling teeth.

15 18. The method of claim 17, wherein said offset urges said pawl out of engagement with said plurality of indexing slots.

19. The method of claim 13, wherein said first set of coupling teeth and said second set of coupling teeth fully mesh to lock said reaction member carrier coupling sleeve and
20 said stator support coupling sleeve together.

20. The method of claim 13, wherein said pawl engages one of said plurality of indexing slots to rotate said stator support coupling sleeve along a plurality of splines in a second axial direction toward said reaction member carrier coupling sleeve.